

**Amendments to the Drawings:**

The attached sheet of drawings replaces the original Figures 1-4. Formal drawings are submitted herewith which incorporate the changes required by the Examiner. Approval by the Examiner is respectfully requested.

Attachment: Replacement Figures 1-4

## **REMARKS**

Claims 1-5, 7-11, 13, 14 and 16-23 are rejected. Claim 1 has been amended. Claims 7 and 8 have been canceled. Claims 1-5, 9-11, 13, 14, and 16-23 are presently pending in the application. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

The basis for the amendment of claim 1 is found in claim 8 as originally filed

### **Rejection of Claims 1-3, 5, 9-11, 13, 14 and 16-23 Under 35 U.S.C. §102(e):**

The Examiner has rejected claims 1-3, 5, 9-11, 13, 14 and 16-23 under 35 U.S.C. § 102(e) as being anticipated by Majumdar et al. '696 for the same reasons as set forth in paragraph 5 of the first office action filed August 24, 2004.

Majumdar discloses an imaging member comprising an image layer and a support comprising at least one layer containing an inorganic particle having an aspect ratio of at least 10 to 1, a lateral dimension of between 0.01 microns and 5 microns and a vertical dimension between 0.5 nm and 10 nm, and polymeric resin for use as an improved base for photographic materials.

The present invention relates to an imaging element comprising a support, an imaging layer, and at least one layer comprising a hydrophilic organic splayant, specifically, gelatin, and at least one natural clay particle having an aspect ratio of from 100:1 to 400:1, wherein said natural clay particle has a length greater than 0 and less than or equal to 700 nm (0.7 $\mu$ m).

A claim is anticipated under 102(e) only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants have amended claim 1 to indicate that the organic intercalant / exfoliant is gelatin. The reference to Majumdar fails to disclose gelatin as a clay intercalant or exfoliant. As a result, the reference fails to anticipate the presently amended claims and the Applicants request that the Examiner reconsider the rejection.

### **Rejection of Claims 1-3, 5, 7-11, 13, 14 and 16-23 Under 35 U.S.C. §102(e):**

The Examiner has rejected claims 1-3, 5, 7-11, 13, 14 and 16-23 under 35 U.S.C. § 102(e) as being anticipated by Dontula et al. '973 for the same reasons as set forth in paragraph 6 of the first Office action.

Dontula discloses an imaging member comprising a duplitized imaging layer and a support comprising at least one layer comprising an inorganic particle having an aspect ratio of at least 10 to 1, a lateral dimension of from 0.01  $\mu\text{m}$  to 5  $\mu\text{m}$ , and a vertical dimension from 0.5 nm to 10 nm, and polymeric resin matrix for use in photographic reflection and transmission imaging applications.

The present invention relates to an imaging element comprising a support, an imaging layer, and at least one layer comprising a hydrophilic organic splayant, specifically, gelatin, and at least one natural clay particle having an aspect ratio of from 100:1 to 400:1, wherein said natural clay particle has a length greater than 0 and less than or equal to 700 nm (0.7 $\mu\text{m}$ ).

A claim is anticipated under 102(e) only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants have amended claim 1 to indicate that the organic intercalant / exfoliant is gelatin. The reference to Dontula fails to disclose gelatin as a clay intercalant or exfoliant. As a result, the reference fails to anticipate the presently amended claims and the Applicants request that the Examiner reconsider the rejection.

**Rejection of Claims 1-5, 7-11, 13, 14 and 16-23 Under 35 U.S.C. §102(e):**

The Examiner has rejected Claims 1-5, 7-11, 13, 14 and 16-23 under 35 U.S.C. § 102(e) as being anticipated by Rao et al. for the same reasons as set forth in paragraph 7 of the first Office action, also indicating that a Declaration under 37 CFR 1.131 is not of record in the instant application. The appropriate Declaration is attached.

**Rejection of Claims 1-3, 5, 7-9, 11, 13, 14 and 16-23 Under 35 U.S.C. §102(a) and (e):**

The Examiner has rejected Claims 1-3, 5, 7-9, 11, 13, 14 and 16-23 under 35 U.S.C. 102 (a) and (e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Majumdar et al. '656, as Majundar et al. '656 disclose imaging elements with layers comprising clay intercalated with polyether block polyamide copolymers and the clay particles have lengths of .01-1 microns and aspect ratios preferably greater than 100. In addition, the Examiner indicates that, if Majumdar et al. '656 do not anticipate the instant claims, then it would at

least be obvious to one skilled in the art to use the clays of Majumdar et al. in imaging supports and layers coated thereon and to vary coverages according to desired purposes.

Majumdar '656 discloses layered materials such as clay, which are intercalated with polyether block polyamide copolymer. These intercalated layered materials may be used to form articles as is or in combination with a matrix polymer. Majumdar '656 fails to mention the use of gelatin.

The present invention relates to an imaging element comprising a support, an imaging layer, and at least one layer comprising a hydrophilic organic splayant, specifically, gelatin, and at least one natural clay particle having an aspect ratio of from 100:1 to 400:1, wherein said natural clay particle has a length greater than 0 and less than or equal to 700 nm (0.7 $\mu$ m).

A claim is anticipated under 102(e) only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants have amended claim 1 to indicate that the organic intercalant / exfoliant is gelatin. The reference to Majumdar fails to disclose gelatin as a clay intercalant or exfoliant. As a result, the reference fails to anticipate the presently amended claims and the Applicants request that the Examiner reconsider the rejection.

To establish a prima facia case of obviousness, there must be some suggestion or motivation in the reference or in the general knowledge available to one skilled in the art to modify the reference, there must be a reasonable expectation of success, and the prior art reference must teach or suggest all the claim limitations. First, Majumdar makes no mention of gelatin as a splayant, that is, an intercalant / exfoliant. Therefore, there is no suggestion or motivation in the reference on the use of polyether block polyamide copolymer intercalants to use gelatin as the intercalant. There is no reasonable expectation of success found in the reference relating to intercalation with polyether block polyamide copolymer to indicate that gelatin would function as an intercalant, as the reference fails to mention the use of gelatin. Since Majumdar fails to mention the use of gelatin as a splayant, the reference also fails to include all the limitations of the present claims.

In addition, the present inventive combination of natural clay particle of the claimed dimensions and gelatin splayant produces surprising results. Table 3 and lines 1-5 on pg. 26 indicate that a natural clay particle of the inventive dimensions intercalated with gelatin provides improved Young's modulus and break strength, indicating a more durable film, as compared to a synthetic clay material with dimensions outside the claimed range. Table 5 and lines 5-10 on pg. 27, as well as Figs. 1-4, illustrate that inventive samples (Figs. 2 and 3) demonstrate improved scratch resistance over gelatin coatings containing no clay materials (Fig. 1), as well as coatings of the prior art, containing synthetic clay materials in gelatin (Fig. 4).

Therefore, since Majumdar contains no suggestion or motivation to modify the reference, supports no reasonable expectation of, fails to teach or suggest all the claim limitations, and the present invention additionally provides surprising results, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C 103(a).

**Rejection of Claims 1-3, 5, 7, 9, 11, 14 and 16-23 Under 35 U.S.C. §102(e):**

Claims 1-3, 5, 7, 9, 11, 14 and 16-23 are rejected under 35 U.S.C. 102(a) and (e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dontula et al. '226 or Dontula et al. '815. Dontula et al. '815 is the published application corresponding to Dontula et al. '226. Dontula et al. '226 (see particularly column 7, line 22 - column 8, line 4; column 5, lines 3-66) and Dontula et al. '815 disclose imaging elements with supports containing clay particles intercalated with alcohol compounds having hydrophilic properties. The aspect ratios are preferably greater than 100 and the lengths are preferably .01-1 micron for the clay particles. If Dontula et al. '815 do not anticipate the instant claims, then it would be at least obvious to use the clays in imaging supports and layers coated thereon and to vary coverages according to desired purposes in Dontula et al. '815.

Dontula et al. '815 relates to improved smectite materials, specifically, an article comprising ethoxylated alcohol wax intercalated in smectite clay. In a preferred form it relates to a method of intercalation and compatibilization of smectite clay in thermoplastics, most preferably used as an improved base for imaging materials. Dontula '815 fails to mention the use of

gelatin, especially for use as an intercalant for layered materials as presently claimed.

Dontula et al. '226 relates to an article comprising ethoxylated alcohol wax intercalated in smectite clay, with or without an additional polymer matrix. Embodiments of the invention comprise a sheet or an imaging member comprising an image layer and at least one layer comprising ethoxylated alcohol wax intercalated in smectite clay. Dontula '226 also fails to mention the use of gelatin, especially for use as an intercalant for layered materials as presently claimed.

The present invention relates to an imaging element comprising a support, an imaging layer, and at least one layer comprising a hydrophilic organic splayant, specifically, gelatin, and at least one natural clay particle having an aspect ratio of from 100:1 to 400:1, wherein said natural clay particle has a length greater than 0 and less than or equal to 700 nm (0.7 $\mu$ m).

A claim is anticipated under 102(e) only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants have amended claim 1 to indicate that the organic intercalant / exfoliant is gelatin. The references fail to disclose gelatin as a clay intercalant or exfoliant. As a result, the references fail to anticipate the presently amended claims and the Applicants request that the Examiner reconsider the rejection.

To establish a prima facia case of obviousness, there must be some suggestion or motivation in the reference or in the general knowledge available to one skilled in the art to modify the reference, there must be a reasonable expectation of success, and the prior art reference must teach or suggest all the claim limitations. First, the Dontula references make no mention of gelatin as a splayant, that is, an intercalant / exfoliant. There is no suggestion or motivation in the references, which relate to ethoxylated alcohol wax intercalated in smectite clay, on the use of gelatin as the intercalant. There is no reasonable expectation of success found in the references relating to ethoxylated alcohol wax intercalated in smectite clay to indicate that gelatin would function as an intercalant, as the reference fails to mention the use of gelatin. Since the references to Dontula fail

to mention the use of gelatin as a splayant, the references also fail to include all the limitations of the present claims.

In addition, as discussed above, the present inventive combination of natural clay particle of the claimed dimensions and gelatin splayant produces surprising results. Table 3 and lines 1-5 on pg. 26 indicate that a natural clay particle of the inventive dimensions intercalated with gelatin provides improved Young's modulus and break strength, indicating a more durable film, as compared to a synthetic clay material with dimensions outside the claimed range. Table 5 and lines 5-10 on pg. 27, as well as Figs. 1-4, illustrate that inventive samples (Figs. 2 and 3) demonstrate improved scratch resistance over gelatin coatings containing no clay materials (Fig. 1), as well as coatings of the prior art, containing synthetic clay materials in gelatin (Fig. 4).

Therefore, since Dontula et al. '226 or Dontula et al. '815 contain no suggestion or motivation to modify the reference, support no reasonable expectation of, fail to teach or suggest all the claim limitations, and the present invention additionally provides surprising results, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C 103(a).

**Double Patenting:**

The Examiner has rejected Claims 1-5, 7-11, 13, 14 and 16-23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,667,148 to Rao et al. A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) is attached.

The Examiner has also rejected Claims 1-3, 5, 7, 9, 11, 14 and 16-23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,841,226 to Dontula et al. A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) is attached.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,



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Enclosures: Replacement Figure x  
Copies of Formal Drawings

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.